CONTENTS

INTELLIGENCE PREPARATION OF THE BATTLEFIELD
(FM 34-130)

When I took a decision or adopted an alternative, it was after studying every relevant--and many irrelevant--factor. Geography, tribal structure, religion, social customs, language, appetites, standards--all were at my finger-ends. The enemy I know almost like my own side.
T.E. Lawrence (Lawrence of Arabia), 1933

The IPB consists of four steps that you perform each time you conduct IPB:

• **Define the battlefield environment.**
• **Describe the battlefield's effects.**
• **Evaluate the threat.**
• **Determine threat COAs.**

HOW TO CONDUCT IPB

■ DEFINE THE BATTLEFIELD ENVIRONMENT ■

- Identify significant characteristics of the environment.
- Identify the limits of the command's AO and battle space.
- Establish the limits of the AI.
- Identify the amount of detail required and feasible within the time available for IPB.
- Evaluate existing data bases and identify intelligence gaps.
- Collect the material and intelligence required to conduct the remainder of IPB.

■ DESCRIBE THE BATTLEFIELD'S EFFECTS ■

- Analyze the battlefield environment:
    - Terrain analysis.
    - Weather analysis.
    - Analysis of other characteristics of the battlefield.

- Describe the battlefield's effects on threat and friendly capabilities and broad COAs.

■ EVALUATE THE THREAT ■

- Update or create threat models:
    - Convert threat doctrine or patterns of operation to graphics (doctrinal templates).
    - Describe in words the threat's tactics and options.
   - Identify HVTs.

- Identify threat capabilities.

■ DETERMINE THREAT COAs ■

- Identify the threat's likely objectives and desired end state.
- Identify the full set of COAs available to the threat.
- Evaluate and prioritize each COA.
- Develop each COA in the amount of detail time allows.
- Identify initial collection requirements.

■ **IDENTIFY SIGNIFICANT CHARACTERISTICS OF THE BATTLEFIELD** ■

Characteristics of the battlefield environment that will influence the commander's decisions or affect the COAs available to your force or to the threat are of special significance in the IPB process.

Figure 5-1. Examine the Common Understanding of the Battlefield.
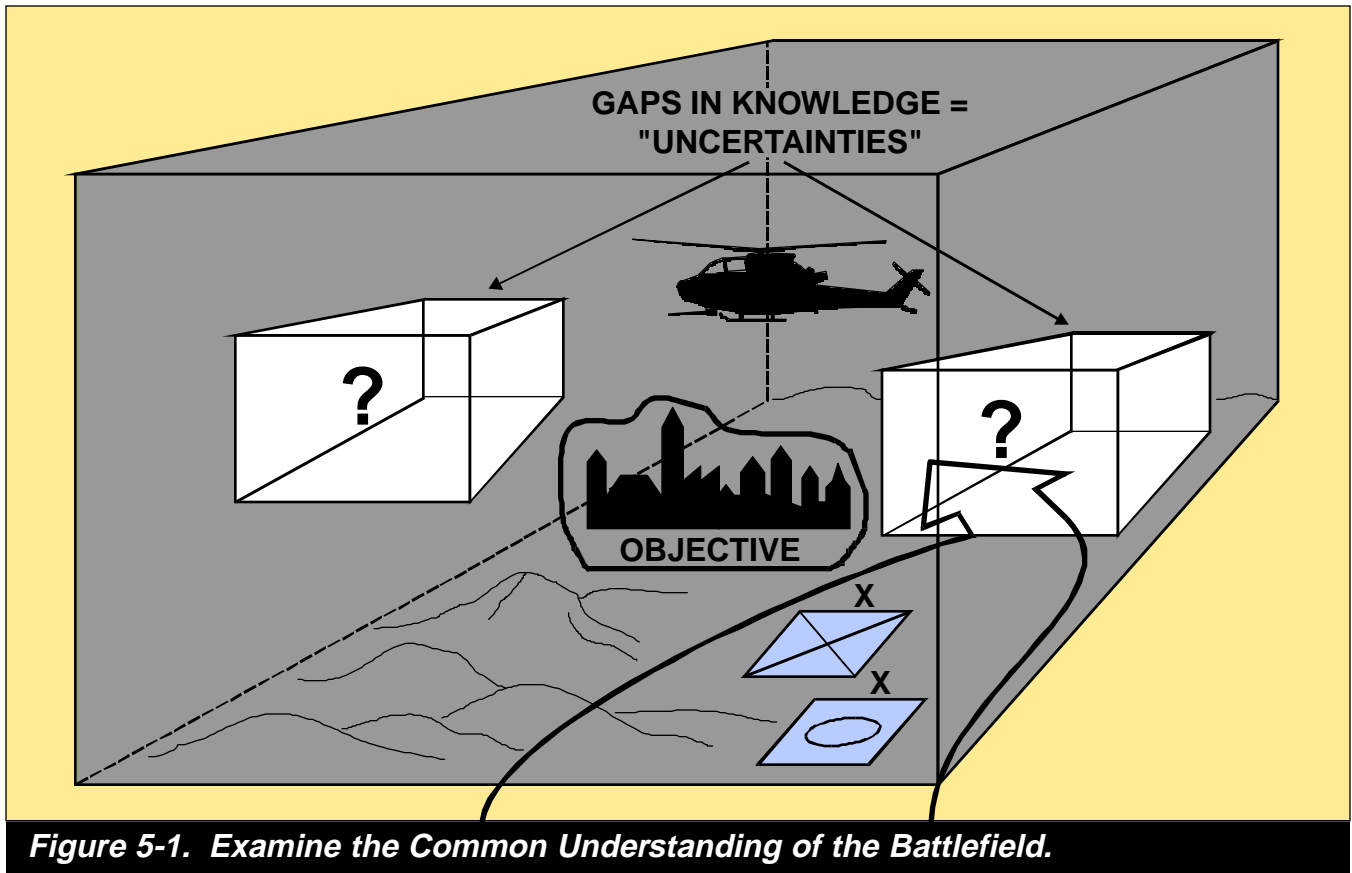
Identifying the significant characteristics of the battlefield environment helps establish the geographical limits of the AI and directs analytical efforts in steps 2 and 3 of the IPB process. It also helps identify gaps in the common understanding of the battlefield, serving as a guide to the type of intelligence and information required to complete the IPB process (see Figure 5-1).
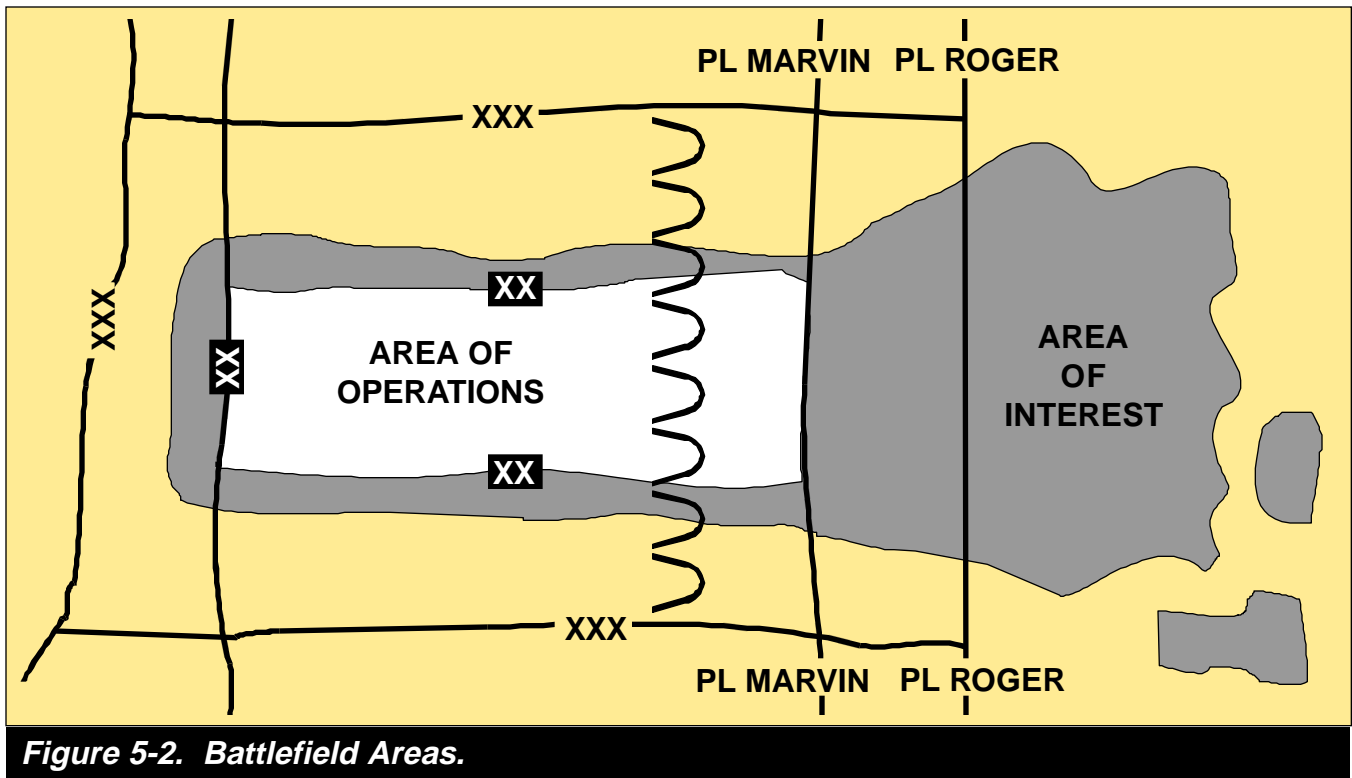
Figure 5-2. Battlefield Areas.

■ **IDENTIFY THE LIMITS OF THE COMMANDER'S AO AND BATTLESPACE** ■

The maximum capabilities of a unit to acquire targets and physically dominate the threat determine the limits of the command's battle space. The command's capabilities in this regard include the target acquisition and long-range assets of supporting and higher commands as well as its own organic systems. A command's battle space generally includes all or most of the AO, as well as areas outside of the AO. The evaluation of the area within the command's battle space may be as detailed as the evaluation of the AO if the commander's guidance or intent requires the command to request, conduct, plan, or synchronize operations there. This is true even if some other command is to conduct the operations. In other cases, the command's battle space may receive the same treatment as its AI (see Figure 5-2).

■ **ESTABLISH THE LIMITS OF THE AI** ■

Base the limits of the AI on the ability of the threat to project power or move forces into the AO. Also, consider the geographical locations of other activities or characteristics of the environment that might influence COAs or the commander's decisions. Consider also any anticipated future mission or "be prepared" and "on order" missions identified during mission analysis, and determine their effect on the limits of the AI. Finally, consider changes in the command's battle space as a result of maneuver.

■IDENTIFY THE AMOUNT OF DETAIL REQUIRED AND FEASIBLE WITHIN THE TIME AVAILABLE ■

Identify the amount of detail required to support planning for each area of the battlefield or each threat force by consulting with the commander and the remainder of the staff. Prioritize your efforts to produce the amount of detail required within the available time. Backwards plan the IPB process and determine how much time you can reasonably devote to each step to meet the commander's time lines. See scenario 3 in Chapter 3 for an example.

■EVALUATE EXISTING BASES AND IDENTIFY INTELLIGENCE GAPS ■

Identify and prioritize the gaps in the current holdings, using the commander's initial intelligence requirements and intent to set the priorities. You should also identify any gaps that cannot be filled within the time allowed for IPB. Discuss with the commander and the remainder of the staff the gaps you do not expect to be filled and formulate reasonable assumptions to fill them.

■COLLECT REQUIRED INTELLIGENCE AND MATERIALS■

Continuously update the IPB products as you receive additional intelligence. Inform the commander if you confirm assumptions made during the initial mission analysis and IPB process. If any assumptions are denied, reexamine the evaluations and decisions on which they were based.

DESCRIBE THE BATTLEFIELD EFFECTS

■ ANALYZE THE BATTLEFIELD ENVIRONMENT ■

The degree of detail in the analysis will vary depending on the area of the battlefield environment you are evaluating. Generally, the evaluation of the AO is more detailed than the AI. Additionally, the focus will vary throughout each area. For example, rear areas within the AO may require a different focus than areas near the main battle area (MBA).

■ TERRAIN ANALYSIS ■

The best terrain analysis is based on a reconnaissance of the AO and AI. Identify gaps in knowledge of the terrain that a map analysis cannot satisfy. Use the gaps you identify as a guide for reconnaissance planning. Because of time constraints, focus reconnaissance on the areas of most importance to the commander and his mission. For example, when conducting terrain analysis for a signal unit, you might focus on identifying locations from which the unit's assets can best support the force commander while also identifying the best locations for the threat's electronic warfare (EW) assets that might target friendly signal systems.

Express the results of evaluating the terrain's effects by identifying areas of the battlefield that favor, disfavor, or do not affect each broad COA. Examples of conclusions about the terrain that

help you make evaluations of the terrain's effects are identification of the places best suited for use as -

- Engagement areas.
- Battle positions.
- Infiltration lanes.
- Avenues of approach.
- Specific system or asset locations.

You reach conclusions about the effect of terrain through two sub-steps:
- Analyze the military aspects of the terrain
- Evaluate the terrain's effects on military operations.

ANALYZE THE MILITARY ASPECTS OF THE TERRAIN.
Terrain analysis consists of an evaluation of the military aspects of the battlefield's terrain to determine its effects on military operations. The military aspects of terrain are -

- Observation and fields of fire.
- Cover and concealment.
- Obstacles.
- Key terrain.
- Avenues of approach.

■ OBSERVATION AND FIELDS OF FIRE ■

Observation is the ability to see the threat either visually or through the use of surveillance devices. Factors that limit or deny observation include concealment and cover.

A field of fire is the area that a weapon or group of weapons may effectively cover with fire from a given position. Terrain that offers cover limits fields of fire.

Terrain that offers both good observation and fields of fire generally favors defensive COAs.

The evaluation of observation and fields of fire allows you to -

- Identify potential engagement areas, or "fire sacks" and "kill zones."
- Identify defensible terrain and specific system or equipment positions.
- Identify where maneuvering forces are most vulnerable to observation and fire.

Evaluate observation from the perspective of electronic and optical line-of-sight(LOS) systems as well as unaided visual observation. Consider systems such as weapon sights, laser range finders, radars, radios, and jammers.

While ground based systems usually require horizontal LOS, airborne systems use oblique and vertical LOS. The same is true of air defense systems (see Figures 5-3 through 5-5).
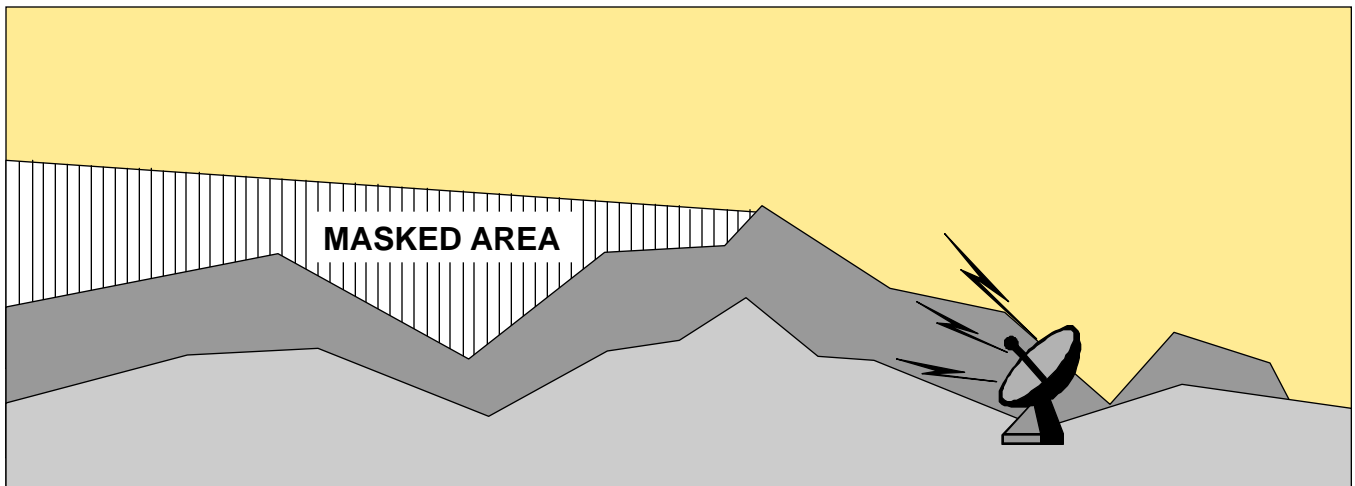
Figure 5-3. Oblique LOS (ground).
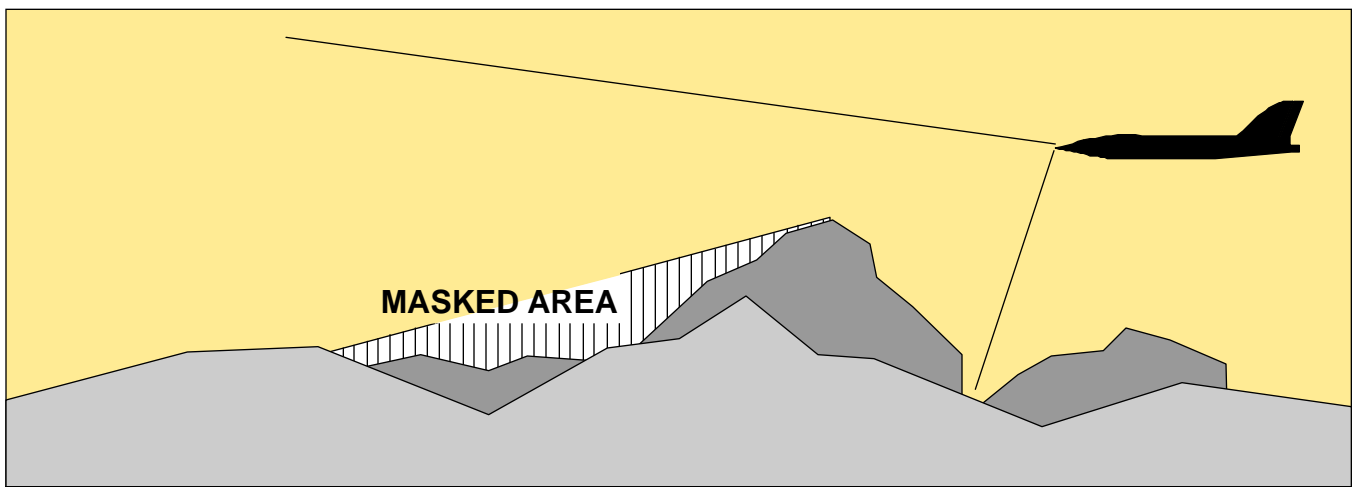
Figure 5-4. Oblique LOS (air).
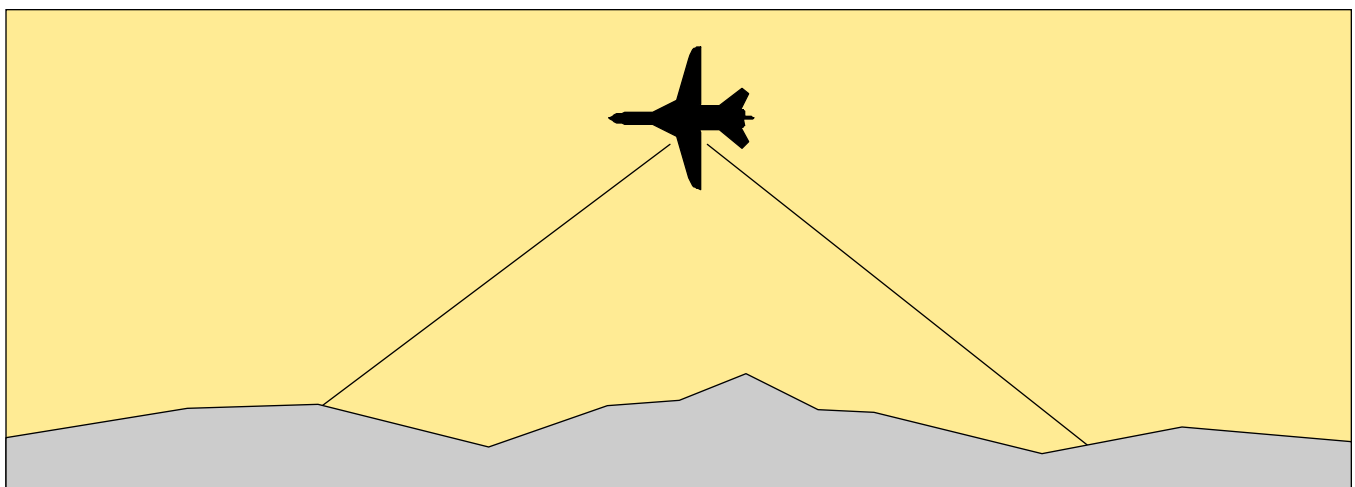
Figure 5-5. Vertical LOS.
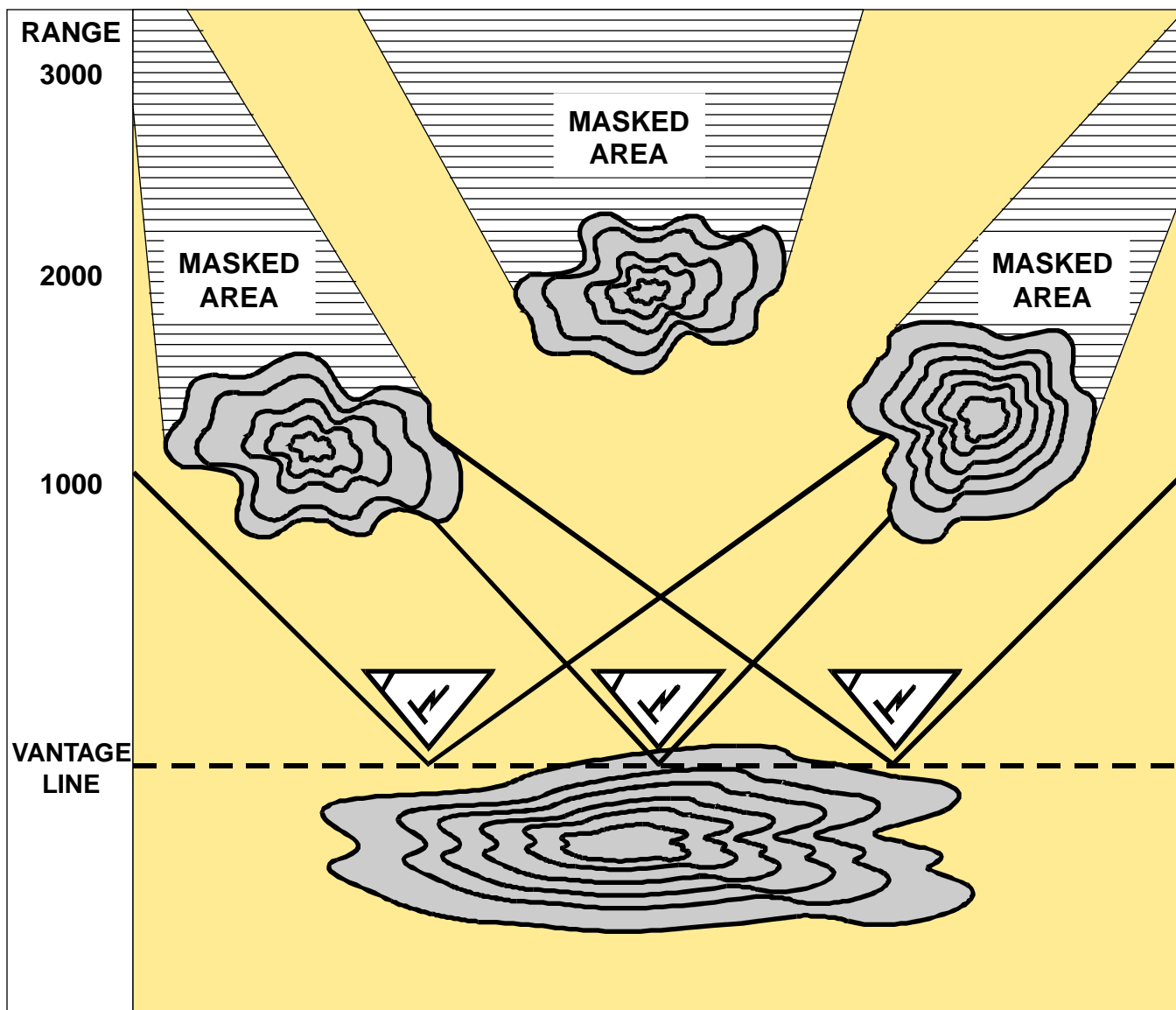
Figure 5-6. Evaluating Observation May Require LOS Analysis.

■ **CONCEALMENT AND COVER** ■

Concealment is protection from observation. Woods, underbrush, snowdrifts, tall grass, and cultivated vegetation provide concealment.

Cover is protection from the effects of direct and indirect fires. Ditches, caves, river banks, folds in the ground, shell craters, buildings, walls, and embankments provide cover.

The evaluation of concealment and cover aids in identifying defensible terrain, possible approach routes, assembly areas, and deployment and dispersal areas. Use the results of the evaluation to -

•   Identify and evaluate AAs.

- Identify defensible terrain and potential battle positions.
- Identify potential assembly and dispersal areas.

■ OBSTACLES ■

Obstacles are any natural or manmade terrain features that stop, impede, or divert military movement.

An evaluation of obstacles leads to the identification of mobility corridors. This in turn helps identify defensible terrain and AAs. To evaluate obstacles-

- Identify pertinent obstacles in the AI.
- Determine the effect of each obstacle on the mobility of the evaluated force.
- Combine the effects of individual obstacles into an integrated product (see Figure 5-7).

VEGETATION

SURFACE DRAINAGE

ET CETERA

COMBINED OBSTACLES
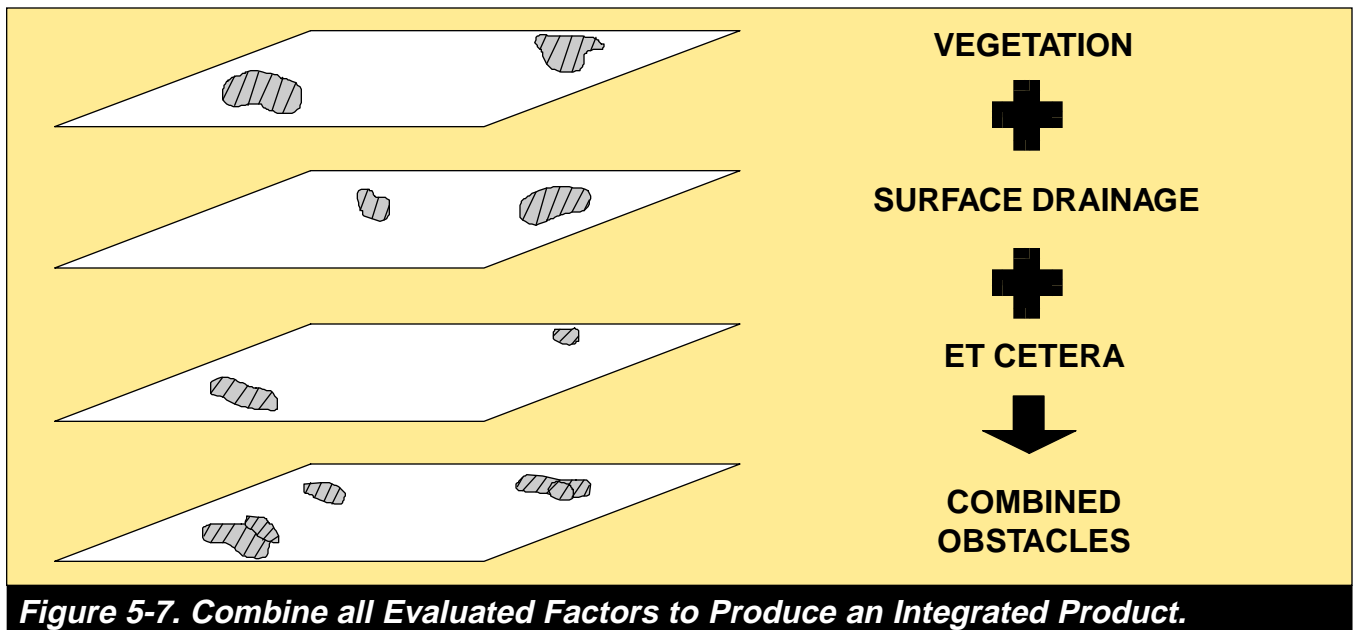
Figure 5-7. Combine all Evaluated Factors to Produce an Integrated Product.

■ KEY TERRAIN ■

Key terrain is any locality or area the seizure, retention, or control of which affords a marked advantage to either combatant.

Evaluate key terrain by assessing the impact of its seizure, by either force, upon the results of battle.

A common technique is to depict key terrain on overlays and sketches with a large "K" within a circle or curve that encloses and follows the contours of the designated terrain. On transparent overlays use a color, such as purple, that stands out.

In the offense, key terrain features are usually forward of friendly dispositions and are often assigned as objectives. Terrain features in adjacent sectors may be key terrain if their control is

necessary for the continuation of the attack or the accomplishment of the mission. If the mission is to destroy threat forces, key terrain may include areas whose seizure helps ensure the required destruction. Terrain that gives the threat effective observation along an axis of friendly advance may be key terrain if it is necessary to deny its possession or control by the threat.

In the defense, key terrain is usually within the AO and within or behind the selected defensive area. Some examples of such key terrain are -

- Terrain that gives good observation over AAs to and into the defensive position.
- Terrain that permits the defender to cover an obstacle by fire.
- Important road junctions or communication centers that affect the use of reserves, sustainment, or LOCs.

■ AVENUE OF APPROACH ■

An AA is an air or ground route that leads an attacking force of a given size to its objective or to key terrain in its path.

To develop AAs, use the results of evaluating obstacles to:

- Identify mobility corridors.
- Categorize mobility corridors.
- Group mobility corridors to form AAs.
- Evaluate AAs.
- Prioritize AAs.

■ IDENTIFY MOBILITY CORRIDORS ■

Mobility corridors are areas where a force will be canalized because of terrain constrictions. The mobility corridor itself is relatively free of obstacles and allows military forces to capitalize on the principles of mass and speed.
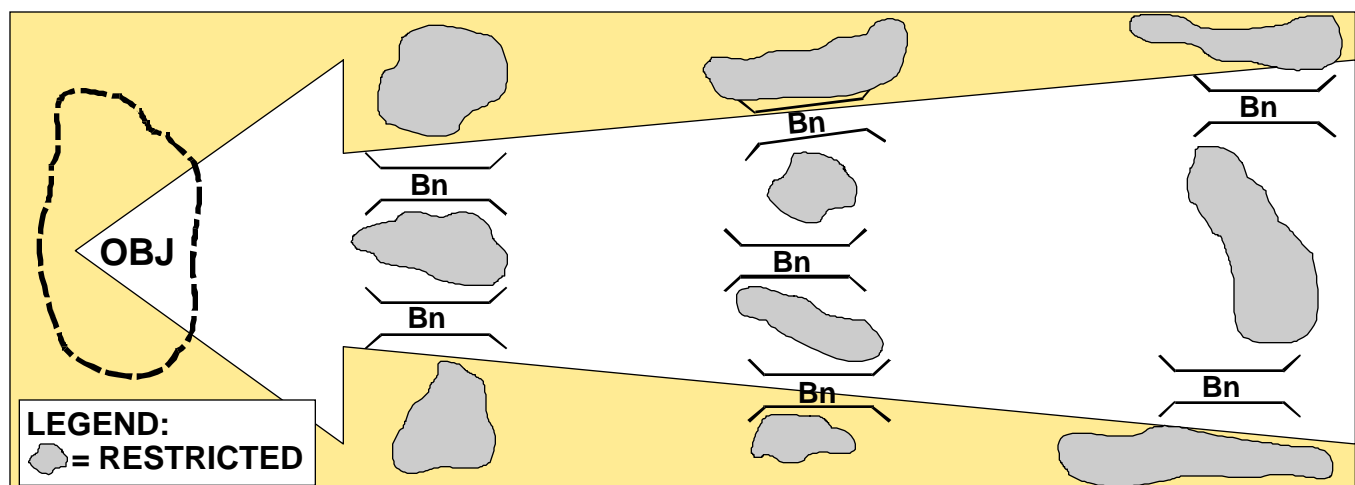
Figure 5-8. Group Mobility Corridors to Form Avenues of Approach.

■ CATEGORIZE MOBILITY CORRIDORS ■

Once you have identified mobility corridors, categorize them by the size or type of force they will accommodate.

Normally, identify mobility corridors for forces two echelons below the friendly command. This varies with each situation. Where the terrain is restrictive, allowing only relatively small mobility corridors, you may need to evaluate mobility corridors *several* echelons below the friendly command.

■ GROUP MOBILITY CORRIDORS TO FORM AVENUES OF APPROACH ■

Group mobility corridors together to form AAs. An AA must provide ease of movement and enough width for dispersion of a force large enough to significantly affect the outcome of a specific operation.

■ EVALUATE AVENUES OF APPROACH ■

An evaluation of AAs identifies those that best support maneuver capabilities. Most engineer detachments do not have the expertise on threat or friendly tactical doctrine required to conduct this step alone. The G2/S2 or his analysts, with assistance from the G3/S3 as required, should conduct this analysis. Evaluate the AAs for suitability in terms of -

- Access to key terrain and adjacent avenues.
- Degree of canalization and ease of movement.
- Use of concealment and cover (force protection from both fires and intelligence collection).
- Use of observation and fields of fire.
- Sustainability (line of communication [LOC] support).

■ PRIORITIZE AVENUES OF APPROACH ■

Prioritize the AAs based on how well each supports maneuver.

EVALUATE THE TERRAIN'S EFFECT ON MILITARY OPERATIONS

A common fault is to discuss the military aspects of terrain in great detail without addressing *why* they are important. To avoid this common fault, you must relate the analysis to the terrain's effects on the broad COAs available to threat and friendly forces.

Evaluate the terrain's effects on offensive and defensive COAs by identifying the areas along each AA best suited for use as potential -

- Engagement areas and ambush sites.
- Battle positions.
- Immediate or intermediate objectives.

Disseminate the results of terrain analysis in the analysis of the AO, the intelligence estimate, and in graphic products that will aid the staff in the completion of its own estimates and plans. A common and effective technique is the use of a MCOO.

To construct a MCOO, start with the combined obstacle overlay and consider adding:

- Cross-country mobility classifications.
- AAs and mobility corridors.
- Countermobility obstacle systems.
- Defensible terrain.
- Engagement areas.
- Key terrain.

■ WEATHER ANALYSIS ■

You use two sub-steps to accomplish weather analysis: (1) analyze the military aspects of weather; and (2) evaluate the weather's effects on military operations.

Each sub-step is discussed below.

(1)   **Analyze the military aspects of weather.**
        The military aspects of weather are -

- Visibility.
- Winds.
- Precipitation.
- Cloud cover.
- Temperature and humidity.

(2)   **Evaluate the weather's effect on military operations.**
        Weather has both direct and indirect effects on military operations. Examples of indirect effects are -

- Temperature inversions might cause some battle positions to be more at risk
- Local conditions of visibility, such as fog, might make some potential engagement areas more attractive than others.
- Hot, dry weather might force a unit to consider water sources as key terrain.

You might also evaluate the weather's direct effects on personnel, equipment, and operations. Begin by establishing the critical values of the military aspects of weather that affect the effectiveness of -

- Personnel.
- Specific types of equipment.
- Types of military operations.

EVALUATE THE THREAT

MISSION AREA OR USE	FORECAST TIME PERIOD (1992)															
	6 OCT				7 OCT				8 OCT				9 OCT			
	6	12	18	24	6	12	18	24	6	12	18	24	6	12	18	24
Mobility (ground)									Yellow	Yellow	Yellow	Yellow	Yellow	Yellow		
Direct Fire Target Acquisition								Yellow	Yellow	Yellow	Yellow					
Airmobile Operations (landing zones)								Yellow	Red	Red	Yellow					
NBC			Yellow	Yellow					Yellow	Yellow						
KEY: Green = Favorable Red = Unfavorable Yellow = Marginal																

Figure 5-9. Determine the Weather's Effects on Military Operations. (FM 34-130)

■ ANALYSIS OF OTHER CHARACTERISTICS OF THE BATTLEFIELD ■

"Other Characteristics" include all aspects of the battlefield environment that affect friendly or threat COAs not already incorporated into the terrain and weather analysis.

An example might be an S2 reporting to his commander: "Sir, religious considerations will make cordon and search operations on Wednesdays extremely difficult to execute--the local population will be praying at the same time we're trying to conduct the search."

In another example, during riot control assistance to civil authorities the influence of gangs or other unofficial political elements becomes very important.

Use a two step process to determine the effects of other characteristics of the battlefield: (1) Analyze the other characteristics of the battlefield; and (2) Evaluate the effects of other characteristics on military operations.

■ DESCRIBE THE BATTLEFIELD'S EFFECTS ON THREAT AND FRIENDLY CAPABILITIES AND BROAD COURSES OF ACTION ■

Combine the evaluation of the effects of terrain, weather, and the other characteristics of the battlefield into one integrated product. Do not focus on the factors that lead to your conclusions. Instead, focus on the total environment's effects on COAs available to both friendly and threat forces.

Description:
- Movement begins as early as 1.5 hours after order.
- Movement along previously rehearsed routes.
- Supported by well-planned and coordinated FS.
- Lead elements and supporting defenses fix friendly forces with fires.
- Main body seeks flanks of friendly forces.

Failure Options:
- Hasty defense.
- Fix friendly forces for counterattack be reserve of higher HQ.

Figure 5-10. A Complete Threat Model Consists of a Graphic Depiction, a Description, and Identification of HVTs.

EVALUATE THE THREAT

■ UPDATE OR CREATE THREAT MODELS ■

Threat models depict how threat forces prefer to conduct operations under ideal conditions. They are based on the threat's normal or "doctrinal" organization, equipment, doctrine, and TTP. Threat models result from a detailed study of the threat force. Ideally, you construct threat models prior to deployment. Even after deployment, however, continue to evaluate the threat and update the threat models as required.

Threat models consist of three parts:

- Doctrinal templates.

- Description of preferred tactics and options.

- Identification of type of HVTs.

■ DOCTRINAL TEMPLATES ■

Doctrinal templates illustrate the preferred deployment pattern and disposition of the threat's normal tactics when not constrained by the effects of the battlefield environment. They are usually scaled graphic depictions of threat dispositions for a particular type of standard operation, such as a battalion movement to contact, an insurgent ambush, or a terrorist kidnaping. Figure 5-11 shows one such doctrinal template.

Figure 5-11. Doctrinal Templates Depict the Enemy's Normal or Preferred Tactics.
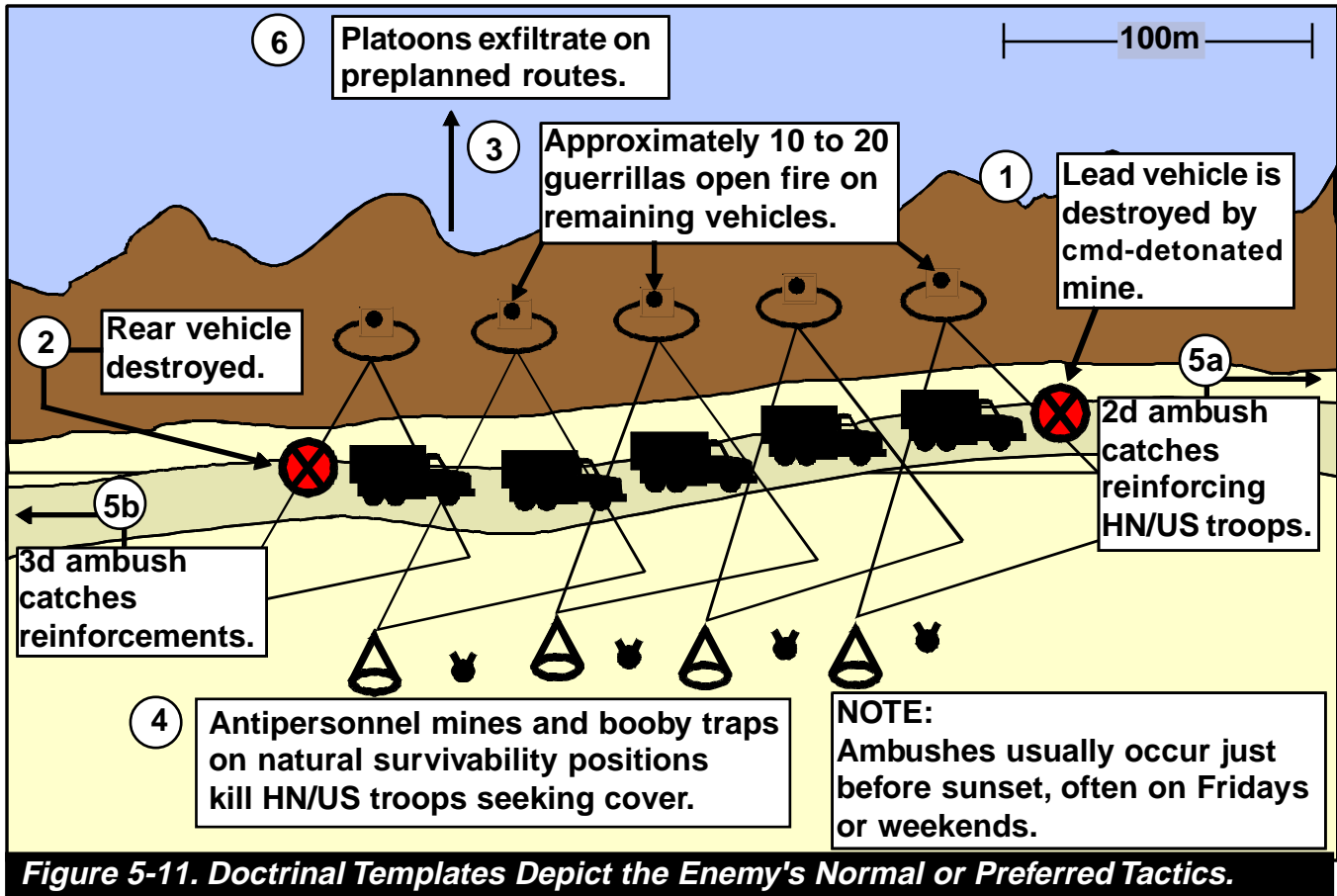
■ IDENTIFICATION OF TYPE HVTs ■

Assets that the threat commander requires for the successful completion of the mission, depicted and described on the template, are HVTs.

Identify HVTs from an evaluation of the data base, the doctrinal template, its supporting narrative, and the use of tactical judgment. HVTs usually (but not always) fall within the narrative, and the nonmaneuver BOS. Develop the initial list of HVTs by mentally war gaming and thinking through the operation under consideration and how the threat will use the assets of each of its BOS for support. Identify any that are critical to the operation's success (see Figure 5-12).

DISRUPT	DELAY	LIMIT	TARGET SET	RELATIVE WORTH			
X			C3	▨	▨	▨	▨
X	X		FS	▨	▨	▨	
X	X	X	MANEUVER	▨	▨		▨
			ADA				
			ENGINEER				
X		X	RISTA	▨	▨		
			REC				
*	*	*	NUC/CHEMICAL	╱	╱	╱	╱
X	X		BULK FUELS	▨			
			AMMO	▨	▨		
			MAINT				
X			LIFT	▨			
X			LOC	▨	▨		

Command centers coordinate move and commitment of reserves. Central FS centers nearby.

LOC allow rapid move of reserves and continued resupply.

Reserve units critical to success of defense.

FS masses fires to assist defense and commitment of reserves.

Acquire deep targets to disrupt friendly attack.

Stockpiles vulnerable, important for continued antiarmor and FS fires.

Figure 5-12. A Complete Threat Model Identifies HVTs.

■ IDENTIFY THREAT CAPABILITIES ■

Threat capabilities are the broad COAs and supporting operations that the threat can take to influence the accomplishment of the friendly mission. They take the form of statements, such as -

- "The enemy has the capability to attack with up to 8 divisions supported by 170 daily sorties of fixed-wing aircraft."
- "The enemy can establish a prepared defense by 14 May."
- "The enemy has the ability to insert up to 2 battalions of infantry in a single lift operation."
- "The drug smugglers have the capability to detect the radars used at our observation posts."
- "The threat can conduct up to three separate smuggling operations simultaneously."
- "The protesters can effectively block traffic at no more than 7 different intersections."

Each of the following steps is discussed below:

- Identify the threat's likely objectives and desired end state.
- Identify the full set of COAs available to the threat.
- Evaluate and prioritize each COA.
- Develop each COA in the amount of detail time allows.
- Identify initial collection requirements.

Identify the threat's likely objectives and desired end state.

Start with the threat command at your level and identify likely objectives and the desired end state. Repeat the process for the next subordinate level, working down to two levels below your own command. Ensure that each level's objective will accomplish the likely objectives and desired end state of its parent commands.

Identify the full set of COAs available to the threat.

To ensure that you consider the full set of COAs available to the enemy, you must at least consider -

- The COAs the threat's doctrine believes is appropriate to the current situation and the likely objectives you have identified. This requires an understanding of the threat's decision making process as well as an appreciation for how he perceives the current situation.
- The threat COAs that could significantly influence your command's mission, even if the threat's doctrine considers them infeasible or "suboptimal" under current conditions. Consider any indirect or "wildcard" COAs that the threat is capable of executing.
- The threat COAs that recent activities and events indicate. To avoid surprise from an unanticipated COA, consider all possible explanations for the threat's activity in terms of possible COAs.

Each threat COA you identify should meet five criteria: suitability, feasibility, acceptability, uniqueness, and consistency and doctrine.

Suitability.

A threat COA must have the potential for accomplishing the threat's likely objective or desired end state. If the COA is successfully executed, will it accomplish the threat's objectives?

Feasibility.

Consider the time and space required to execute the COA. Are they available?

Acceptability.
Consider the amount of risk involved. Will threat forces accept the amount of risk entailed in adopting the COA? Can they afford the expenditure of resources for an uncertain chance at success? This is obviously a subjective judgment based on knowledge of the threat and his doctrine. In some instances, the threat might undertake otherwise unfavorable COAs, particularly if they are the only means to accomplishing his objective.

Uniqueness.
Each threat COA must be significantly different from the others. Otherwise, consider it as a variation rather than a distinct COA. Factors to consider in determining if a COA is "significantly" different are -

- Its effect on the friendly mission.
- Use of reserves or second echelon.
- Location of main effort.
- Scheme of maneuver.
- Task organization.

Consistency and Doctrine.
Each threat COA must be consistent with the threat's doctrine. Base the evaluation of consistency on the threat's written doctrine and observations of his past application of doctrine, as revealed in the intelligence data base. Do not, however, overlook threat efforts to achieve surprise by deviating from known doctrine or using "wildcard" COAs.

■ **EVALUATE AND PRIORITIZE EACH COURSE OF ACTION** ■

The resulting set of COAs depicts the full set of options available to the threat. Remember that the threat COAs you identify are *assumptions* about the threat, *not facts.* Because of this, you cannot predict with complete accuracy which of the COAs the threat will employ. You must evaluate each COA and weigh it in accordance with its likelihood.
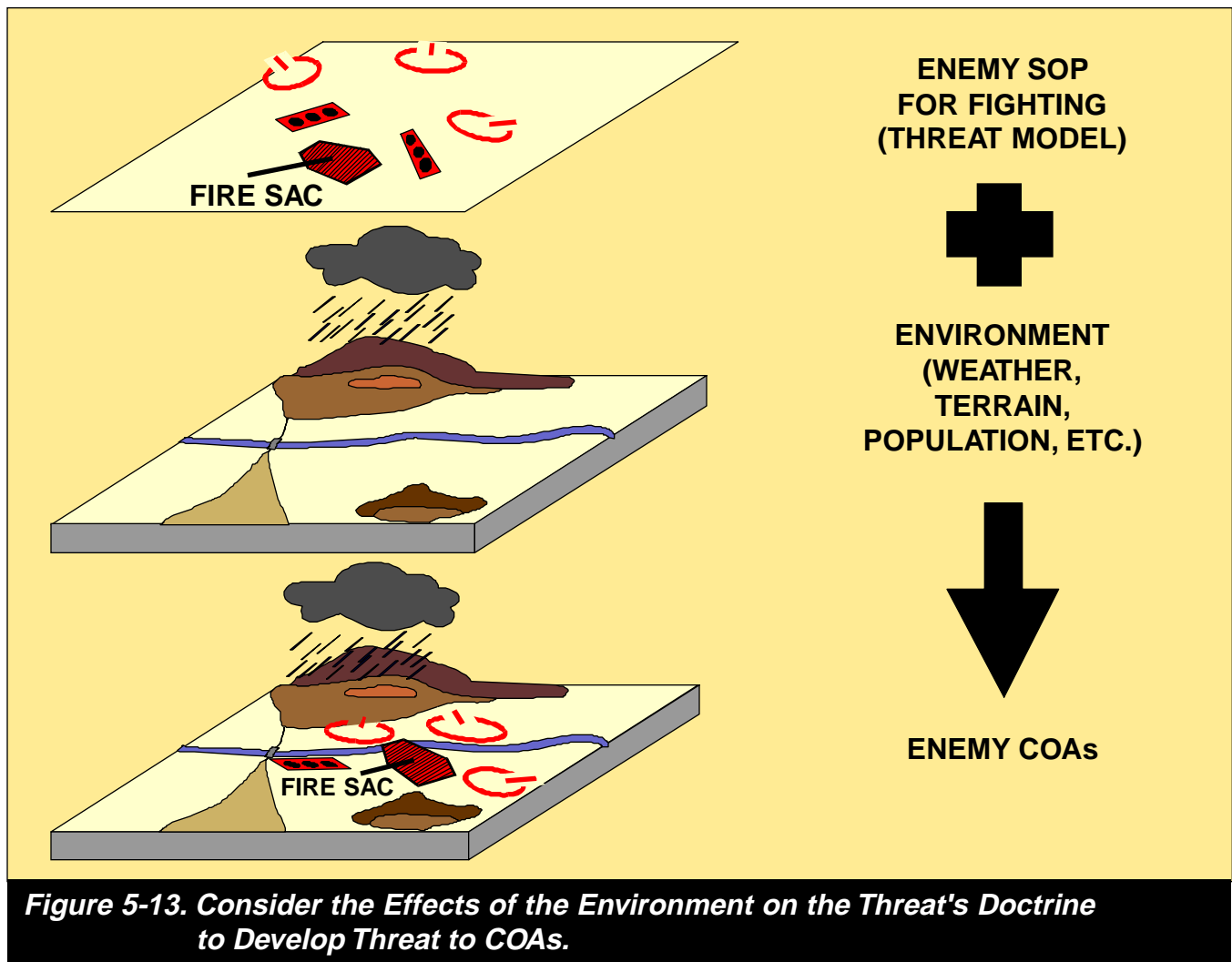
■ **DEVELOP EACH COURSE OF ACTON IN THE AMOUNT OF DETAIL TIME ALLOWS** ■

Once you have identified the complete set of threat COAs, develop each COA into as much detail as the situation requires and time available allows. Base the sequence in which you develop each COA on its probability of adoption and the commander's guidance. To ensure completeness, each COA must answer five questions -

- **WHAT** - the type of operation, such as attack, defend, reinforce, or conduct retrograde.
- **WHEN** - the time the action will begin. You usually state this in terms of the earliest time that the threat can adopt the COA under consideration.
- **WHERE** - the sectors, zones, axis of attack, AAs, and objectives that make up the COA.
- **HOW** - the method by which the threat will employ his assets, such as dispositions, location of main effort, the scheme of maneuver, and how it will be supported.
- **WHY** - the objective or end state the threat intends to accomplish.

Situation templates are graphic depictions of expected threat dispositions, should the threat adopt a particular COA. The templates usually depict the most critical point in the operation as agreed upon by the G2 and G3. However, you might prepare several templates representing different snapshots in time starting with the threat's initial array of forces. These are useful in depicting points at which the threat might adopt branches or sequels to the main COA, those points when the threat is especially vulnerable, or other key points in the battle, such as initial contact with friendly forces. You use situation templates to support staff wargaming and develop event templates. (See Figures 5-13, 5-14, and 5-15).

Figure 5-13. Consider the Effects of the Environment on the Threat's Doctrine to Develop Threat to COAs.
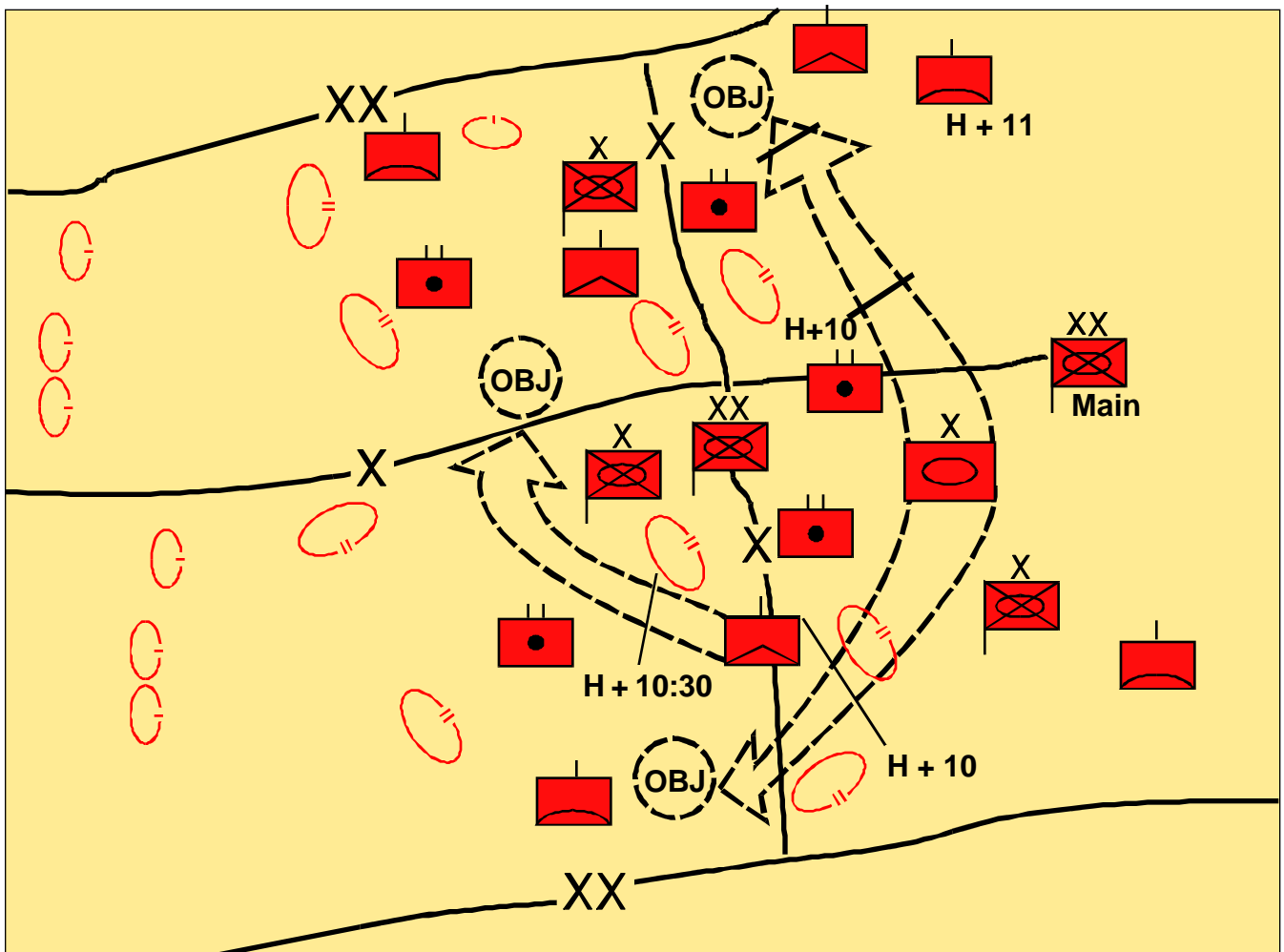
Figure 5-14. Situation Templates Depict Threat COA (Deliberate Defense).

NAI 1	EW package	ADA suppression package	Strike package	Fighter intercept package			
NAI 2		EW package	ADA suppression package	Strike package			
NAI 3			EW package	ADA suppression package	Strike package		
NAI 4				EW package	ADA suppression package	Strike package	
NAI 5		Fighters attack AWACS			Fighter intercept package	Fighter intercept package	
NAI 6					EW package	ADA suppression package	
NAI 7 (target area)						EW package	
NAI \ TIME	H-20min	H-16min	H-14min	H-9min	H-7min	H-3min	

Figure 5-15. Situation Templates Can Take the Form of Matrices.

■ DESCRIPTION OF THE COA AND OPTIONS ■

You, now, must prepare a description of the activities of the forces depicted on the situation template. This can range from a narrative description to a detailed "synchronization matrix" that depicts the activities of each unit and BOS in detail. You should address the earliest time the COA can be executed, timelines and phases associated with the COA, and decisions the threat commander will make during execution of the COA and after. You use the COA description to support staff wargaming and to develop the event template and supporting indicators.

■ HIGH VALUE TARGETS ■

As you prepare and mentally wargame the situation template, note how and where each of the BOS provides critical support to the COA. This leads to identification of HVTs. Use the list of HVTs in the threat model as a guide, but do not be limited by it. Determine the effect on the COA of losing each HVT and identify likely threat responses.

IDENTIFY INITIAL COLLECTION REQUIREMENTS

After identifying the set of potential threat COAs, the initial challenge is to determine which one he will actually adopt. Initial collection requirements are designed to help you answer this challenge.

The differences between the NAIs, indicators, and TPLs associated with each COA form the basis of the event template (see Figure 5-16). The event template is a guide for collection and R&S planning. It depicts where to collect the information that will indicate which COA the threat has adopted.

Figure 5-16. Compare Enemy COAs to Produce the Event Template.
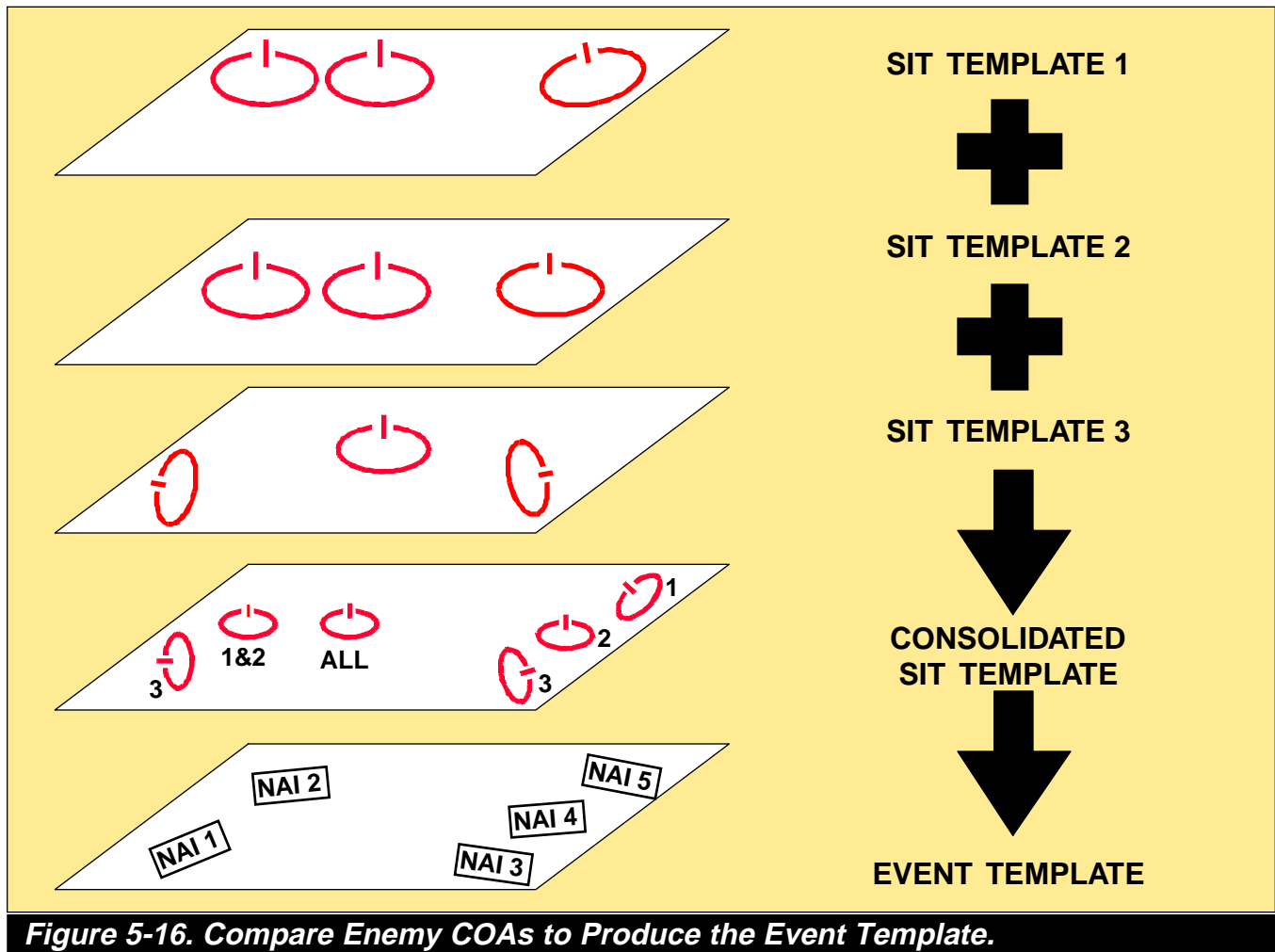
The event matrix supports the event template by providing details on the type of activity expected in each NAI, the times the NAI is expected to be active, and its relationship to other events on the battlefield. Its primary use is in planning intelligence collection; however, it also serves as an aid to situation development (see Figure 5-17).

NAI NO.	No Earlier Than (Hours)	No Later Than	INDICATOR
NAI 1	H-7	H-2	Engineer preparation of artillery positions.
NAI 1	H-2	H-30min	Artillery occupies firing positions.
NAI 1	H-1	H-15min	Artillery commences preparatory fires.
NAI 2	H-2	H-1.5	Combat recon patrol conducts route recon.
NAI 2	H-1.5	H-30min	Rifle company (+) in march formation.

Figure 5-17. The Event Matrix Supports the Event Template.

INTELLIGENCE AND ELECTRONIC WARFARE CAPABILITIES
(FM 34-2, FM 34-8-2)

■ BATTALION MILITARY INTELLIGENCE RESOURCES ■

Figure 5-18 indicates what resources the maneuver battalion has available to gather information of intelligence value. The divisional MI battalion often attaches ground surveillance radars (GSRs) to the maneuver brigades. The range for GSRs in the light division and in the heavy division is different; the light division uses the PPS-15 while the heavy division uses the PPS-5.
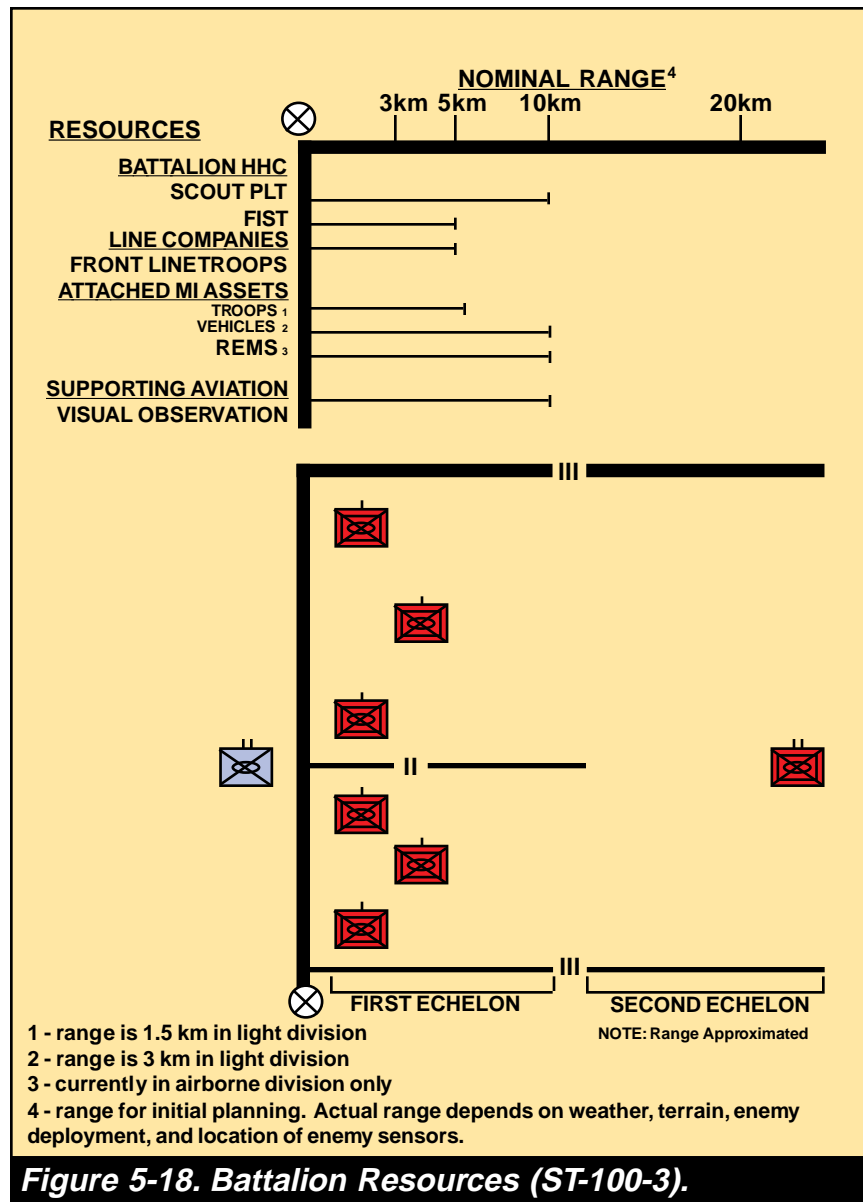
Figure 5-18. Battalion Resources (ST-100-3).

◼ MANEUVER BRIGADE RESOURCES ◼

Divisional brigades have no organic, dedicated MI resources for gathering intelligence. The brigade commander relies on subordinate battalions, on support provided from elements assigned to the divisional MI battalion, and on other division elements in the brigade area. These other divisional elements, which normally include an FA battalion, an ADA unit, and combat engineers, can provide a wealth of information if properly tasked. MI augmentation includes an intelligence and electronic warfare support element (IEWSE) to provide liaison between the brigade and the MI battalion. MI support could also include attached assets (such as a surveillance squad), intelligence and electronic warfare (IEW) assets placed in direct support (such as counterintelligence (CI) or interrogation teams), or assets task-organized into an IEW company team (such as collection and jamming assets). The range for CI and interrogation teams

is indefinite. Interrogation teams can provide information about enemy intent and enemy activities beyond the range of most intelligence systems by interrogating refugees and enemy prisoners of war (EPWs). Counterintelligence is a security function that gathers information, most of which comes from other intelligence assets, to assess enemy intelligence capabilities. An IEW company team may be DS to the brigade or GS to the division and deployed forward in the brigade sector.

NOMINAL RANGE [1]

RESOURCES
- **Organic Battalions**
  - Front Line Troops
  - Patrols/Scouts
- **DS Artillery Battalions**
  - Visual Observation
  - CM/CB Radar
- **ADA Company**
  - Visual Observation
  - Radar
- **MI Company Team**
  - Interrogators [3]
  - Counterintelligence [3]
  - **GSR**
    - Vehicles [4]
    - Personnel [4]
  - HF/VHF Intercept
  - HF/VHF Jamming [5]
- **Engineers**
  - Visual Observation
- **Combat Aviation**
  - Visual Observation

BRIGADE BATTLE

FIRST ECHELON   SECOND ECHELON

NOTE: Range Approximated
1. Range for planning. Actual range depends on terrain, weather, enemy deployment, and location of friendly sensors.
2. Usually deployed in brigade area. May be GS to division or DS to brigade.
3. Range indefinite. Based on information obtained through exploitation of HUMINT sources.
4. GSR range is 1.5 km for personnel and 3 km for vehicles in light division.
5. No ground-based jamming in light division.

Figure 5-19. Brigade Resources (ST-100-3).

Resources available to the ACR and separate brigade are similar to those found at division, but are organized into a multidisciplined MI company. Subordinate squadrons and battalions with scouts, FA observers, and other elements, as depicted below, assist in intelligence operations. The ACR and separate brigade coordinators of IEW operations are the S2 and the S3; however, their responsibilities are expanded over those of their counterparts in the divisional brigades and resemble those of the division G2 and G3.

RESOURCES

NOMINAL RANGE [1]

SQUADRONS/BATTALIONS
Front Line Troops
Scouts/Reconnaissance
FA Observers
FA CM/CB Radar [2]

Ground Surveillance Radar [3]
Personnel
Vehicles

AVIATION SQUADRON
Visual Observation
HF/VHF Intercept [4]
HF/VHF Jamming [4]

MI COMPANY
HF/VHF Intercept
VHF Jamming [5]
Interrogators [6]
Counterintelligence [6]

ACR/SEPARATE BRIGADE BATTLE

FIRST ECHELON   SECOND ECHELON

1. Range for initial planning. Actual range depends on terrain, weather, enemy deployment, and location of friendly sensors.
2. TPQ-36 in FA battery organic to each squadron of ACR.
3. Attached to squadrons or battalions from MI company.
4. Employed under OPCON of MI company. Is in ACR only.
5. In ACR only.
6. Range indefinite. Based on information obtained through exploitation of HUMINT sources.

Figure 5-20. ACR/Separate Brigade Resources (ST 100-3).

	21 MARCH			22 MARCH		23 MARCH	
TIMELINE:	**2400**	**1200**	**2400**	**1200**	**2400**	**1200**	**2400**
PIR/IR NO:	**P1**	**I1**	**P2**	**P3/I4**	**I2**	**I8 I4**	
SCOUTS:	▭ ▭ X⌐━━━━━━━━━━━━━━━━━ XX*⌐						
A Co **B Co** **C Co** **Bde**	▭ ▭ ▭ ▭ ▭ ▭ ▭ ▭ X⌐ ▭ ▭ ▭ ▭ X⌐━━━━━━━━━━━━━━━ X						

*SCOUTS WILL NOT PROCEED TO P3/I4 IF THEY FIND INSURGENT COMPANY IN NAI NO. 1 (PIR1)

Figure 5-21. The Intelligence Synchronization Matrix (FM 34-130).

TACTICAL INTELLIGENCE COLLECTION ASSETS (ST 100-3)

The following figure depicts the dedicated intelligence collection assets available at the tactical level. You can find more detailed information concerning each system in Field Manual (FM) 34-2, *Collection Management and Synchronization Planning,* 8 March 1994.

NAME	INTERCEPT	ECM	DF OR LOB	PRIMEMOVER	NICKNAME
TRQ-32(V)2	HF/VHF/UHF	N/A	VHF DF	CUCV	TEAMMATE
TRQ-30*	HF/VHF	N/A	VHF LOB	MAN	NONE
TSQ-138*	HF/VHF/UHF	N/A	VHF DF	M1015A1	TRAILBLAZER
PRD-10*	HF/VHF/UHF	N/A	VHF DF	MAN	MRDFS
USD-9B	HF/VHF/UHF NONCOMMS	N/A	VHF DF SHF	RC-12K	GUARDRAIL COMMON SENSOR
TLQ-17A(V)3	HF/VHF	HF/VHF	N/A	HMMWV	TRAFFICJAM
GLQ-3B*	HF/VHF	HF/VHF	N/A	CUCV	NONE
ALQ-151V2	HF/VHF	HF/VHF	VHF DF	EH-60	QUICKFIX IIB
ALQ-133	NONCOMMS	N/A	NONCOMMS DF	RV-1D	QUICKLOOK II

* May not be in the active force inventories.

■ OFFENSIVE IPB AND RECONNAISSANCE ■

Offensive IPB, coupled with aggressive reconnaissance, provides the commander the following information:

- Location of existing and reinforcing obstacles.

- Enemy positions and orientations.

- Enemy intent, based on his dispositions.

- AAs to exploit enemy weaknesses.

- Likely COA for employment of enemy reserves, counterattacking forces, and CS assets.

From the analysis of the enemy's scheme of defense, the commander develops a tentative plan to defeat it.

Observations of enemy's defensive positions and terrain critical to the scheme of maneuver must be maintained to ensure that the enemy does not modify his defenses while the task force plan is being finalized and coordinated. Use supporting and direct fires to impede enemy preparations to the maximum degree practical and desirable.

Use reconnaissance assets to assist friendly movement.

■ RECONNAISSANCE AND SURVEILLANCE PLANNING ■

The S2 plans and conducts reconnaissance and surveillance operations and coordinates them with the S3 to confirm or deny the S2 templating.

- Continually conduct reconnaissance to collect information on which the commander plans, makes decisions, and issues orders. Reconnaissance concentrates on one or more specific target areas without the requirement for continuous coverage.

- Surveillance is the systematic, continuous observation of areas by visual or other detection means for intelligence purposes.

Reconnaissance and surveillance operations are conducted by various elements:

- **Scouts.** These are the soldiers best trained to function as the "eyes" and "ears" of the task force.

- **Ground surveillance radars.** A GSR can detect moving vehicles and personnel in open terrain at long ranges, and it can provide information on the number, location, disposition, and types of targets.

- **Remote sensor teams.** Remotely employed sensors (REMS), like GSR, are division assets attached or placed in direct support. The battalion must provide the manpower to emplace REMS.

- **Infantry.** Manning OPs and patrolling are infantry missions.

- **Tanks.** While tank units are not manned to conduct patrols and man OPs, their use should be planned. The tanks' thermal sights are a useful means of detecting vehicle movement.

- **ADA.** Ground based sensors provide excellent detection capability against UAVs and cruise missiles. HIMAD units provide excellent radar detection of fixed rotary wing aircraft.

Planning considerations.

- The S2 coordinates efforts of all intelligence resources into one collection effort.

- The S2 prioritizes intelligence requirements (IR) for R&S missions, and further refined as specific instruction orders.

- Economy of effort is necessary in planning the use of resources for maximum return. Duplication of effort is eliminated.

- The S2 plans secondary missions for each available asset.

Planning process.

- The task force S2 prepares a detailed R&S plan based on information generated during the IPB process.

- Company teams, the scout platoon, GSR sections, and any other element that has a reconnaissance and surveillance capability receive specific taskings. As a minimum, the R&S plan should include:

  - **Maneuver units.**

    - Number and location of OPs required, or sectors requiring surveillance.

- Ambush requirements with locations and effective times.
- Reaction forces requirements.
- Obstacles to be protected.
- Patrol requirements with routes, objectives, and times.

- Scouts.

- Specific mission (route, zone, or a reconnaissance).
- Screen location, contact points with adjacent unit, and time needed to be established.
- Attachments with effective time and reporting locations
- Subsequent missions.
- CS and CSS support.

- Ground surveillance radars.

- Locations, sectors, schedules, and security/support arrangements.
- Day missions.
- Subsequent missions.
- CS and CSS support.

- Remote sensors. Location and emplacement responsibilities.

- Coordinating instructions.

- Passage instructions, including recognition signals, routes, passage points, and responsible party.
- Rules of engagement and disengagement.
- Reporting schedules.

- IPB provides the S2 with a guide for effective R&S resources employment. The S2 must use the event template developed during IPB to guide him in determining where and when to look for the enemy and units and activities for which to look. It also guides him in orienting and directing his R&S resources to the proper area for the needed information. An R&S overlay of the area of operation is necessary to ensure the proper coverage of all areas.

- To develop a useful R&S plan, the S2 must adhere to the following elements:

  - Commander's guidance.
  - Priorities, terrain and weather, and tactical situation, which determine
      requirements.
  - Resources, terrain, long-range weather forecast, electronic warfare,
    operations security, and economy of effort.

- Develop the R&S plan early in the commander's overall planning process. Disseminated early with taskings to promote coordination, preparation, and reconnaissance. All elements must know where patrols and OPs are located to avoid combat with friendly forces.

Reporting.

The S2 establishes reporting by an established time schedule. The SALUTE format is used for accurate reporting. Information collected must be quickly disseminated to all elements of the task force and higher headquarters.

Dissemination of information.

Dissemination within the battalion task force is usually made by personal contacts, oral reports, eavesdropping, and briefings. Dissemination to higher and adjacent units is usually accomplished through reports, summaries, and intelligence estimates and analyses.

RECONNAISSANCE AND SURVEILLANCE (R&S) PLANNING: A TECHNIQUE

- Involve all BOS in R&S planning.
- Phased intelligence collection.
- Specific PIR--address single enemy activity.
- Include rear area PIR.
- Focus each TF on maximum of 3 PIRs at one time.
- Ensure Bde Cdrs R&S intent gets to intelligence collectors.
- Prioritize, sequence, and focus intelligence gathering assets.
- Task all intelligence-gathering assets:

  - Task by NAI, not asset.
  - Task to destroy (TAI), if required.

- Aggressively pursue intelligence (do not put on autopilot).
- Targeting and intelligence collection priorities must match:

  - List all HPTs in PIR, R&S/observer plans, and fire support execution matrix.
  - Plan to get BDA.

- Always cover OPFOR decision points with TAIs.
- Share intelligence within staffs and on radio nets.
- Ask division to cover the NAI you can't; include RFIs on flank.

- War-game the R&S plan:

    - Integrate all BOS.
    - Ensure intelligence gathering is focused.
    - Synchronize Arty, C² , ACPs, SEAD, NFA mgmt, etc.
    - Include brigade COLTs in TF R&S plan.
    - Synchronize with observer plan.
    - Ensure observer redundancy.
    - State Eng recon task and purpose.
    - State ADA recon task and purpose.
    - Include TF S2, if possible.

- Rehearse the R&S plan. (Can be radio rehearsal.)
- Issue FRAGO at Change of Mission to get next R&S effort going.

PLAN THE DEFENSE (FM 71-2, FM 71-3, FM 7-2)

During IPB, the commander and his staff consider weather, enemy, and terrain to determine and analyze ground and air AAs for defensive purposes. Specific considerations for the analysis of AAs include the following:

- Determining primary and secondary AAs and mobility corridors.
- Determining key and decisive terrain.
- Determining, FROM THE ENEMY'S POINT OF VIEW:

    - Maneuver space.
    - Trafficability.
    - Cover and concealment.
    - Observation and fields of fire.
    - Key/decisive terrain.
    - Limited visibility effects.
    - Enemy air avenues of approach.

- Determining possible and probable enemy COA.
- Developing named areas of interest and target AI.

INTELLIGENCE INDICATORS (FM 34-3)

As easy reference, the following indicators may reveal that the enemy may be changing mission or operation.

■ **OFFENSE** ■

The following would normally indicate that the enemy is considering an offensive COA:

- Enemy concentrates forces in forward assembly areas.
- Enemy increases air, ground, and SIGINT reconnaissance.
- Other indicators:
  - Removal of all clearing lanes through friendly obstacles.
  - Movement forward of march columns in a first echelon division.
  - Extensive artillery and aviation preparation.
  - Concentration of fire on a narrow front.
  - Operation of movement support detachment forward of enemy assembly areas.
  - Placement of division forward CP within 3 kms of enemy FLOT.
  - Placement of regimental artillery forward (within ½-4 kms of enemy FLOT).
  - Placement of division artillery forward (within 4-6 kms of enemy FLOT).
  - Enemy increases logistic and service activity.

■ DEFENSE ■

The following are indicators that the enemy may be considering a defensive option:

- Establishment of a security zone.
- Preparation of primary company-size strong points on key terrain.
- Presence of obstacles, contaminated areas, and minefields.
- Locations of division forward CP 5-7 kms from enemy FLOT.
- Regimental artillery position rearward (4-10 kms from FLOT) (7-15 kms from enemy FLOT).
- Preparation of alternate artillery positions.

■ WITHDRAWAL ■

Indicators that may show that the enemy is considering a withdrawal are:

- Establishment of a covering force and rear guard.
- Withdrawal of rear series first; combat support second; combat forces withdrawn third.
- Movement of long-range artillery to rear.
- Use of smoke, artillery, and aviation which could cover withdrawal.

■ WEAPONS OF MASS DESTRUCTION ■

The following indicators may show the presence of weapons of mass destruction:

- Identification of heavily guarded installation and convoys.
- Presence of heavy artillery (e.g., 203 mm gun or 240 mm mortar) in divisional area.
- Presence of intermediate-level missile systems.
- Use of missile-associated terms on selected radio nets.
- Evidence of sudden and energetic digging in enemy areas; movement of vehicles to reverse slopes; removal of antennas and other equipment mounted on vehicles.
- Evacuation of civilians from route of movement, firing sites, and storage areas.

ESTABLISH AND PRIORITIZE INTELLIGENCE REQUIREMENTS
(FM 34-2)

During wargaming, your S2 develops a set of IRs for each friendly COA. Each is linked to a specific enemy action that requires a friendly response.

PIRs are those IRs critical to the accomplishment of your mission. Wargaming will dictate which IRs will become priority IRs (PIRs) as the mission runs its course.

As the commander, you must always select or approve the PIRs. Here are some guidelines to follow.

- **Situationally template and wargame each IR.**
- **The collection manager should not accept or propose an IR until he fully understands and can track the friendly action the IR is designed to support.**
- **The S2 should nominate PIRs for approval ONLY FROM THE LIST OF ALREADY PLANNED AND COORDINATED IRs.**
- **Information that will answer a PIR must be collectable and you must understand how your S2 intends to collect to satisfy your PIR.**
- **You must restrict your PIR to only your most critical requirements because only limited collection assets are available.**

■ **EXAMPLES OF POOR PIRs** ■

The following is an often seen, but still poor, PIR:

"Will the enemy attack? If so, how, when, where, and in what strength?"

The criticisms of this PIR:

- First, the PIR contains five significantly different questions. Which of these five questions is the priority? Unless the S2 gives more guidance, the individual collection asset must determine on which part of this "PIR" to work.

- Second, your S2 probably knows more about the situation than "the enemy might attack somehow, sometime, somewhere, and in some strength." The PIR, as stated, might prompt some collection assets to collect information that is already known.

- Third, even for the issues that your S2 doesn't know, the enemy can only select from a limited range of COAs because of terrain, weather, politics, etc. If the PIR takes IPB into account, the S2, through more specific tasking, will minimize the chance that collection assets will look for the enemy where he is not likely to be.

- Finally, when your staff wargames, they may find some aspects of this question to be irrelevant to your present situation. For example, your defense may be fully capable of defeatng an enemy attack regardless of when they actually attack. Why waste collection assets on a question you really don't need answered?

■ EXAMPLES OF GOOD PIRs ■

There is no "set" of PIRs we can present that will be useful for all tactical situations, any more than there is a set of maneuver paragraphs that you can plug into any OPORD. Below are some examples of the types of PIRs you should expect to see from your S2 for your approval. Because your intelligence needs will change over time, most PIRs will only be important during certain times. Referring to PIRs as "time phase" is redundant. They are dynamic, just as the battle will be dynamic. Following are some examples of good PIRs.
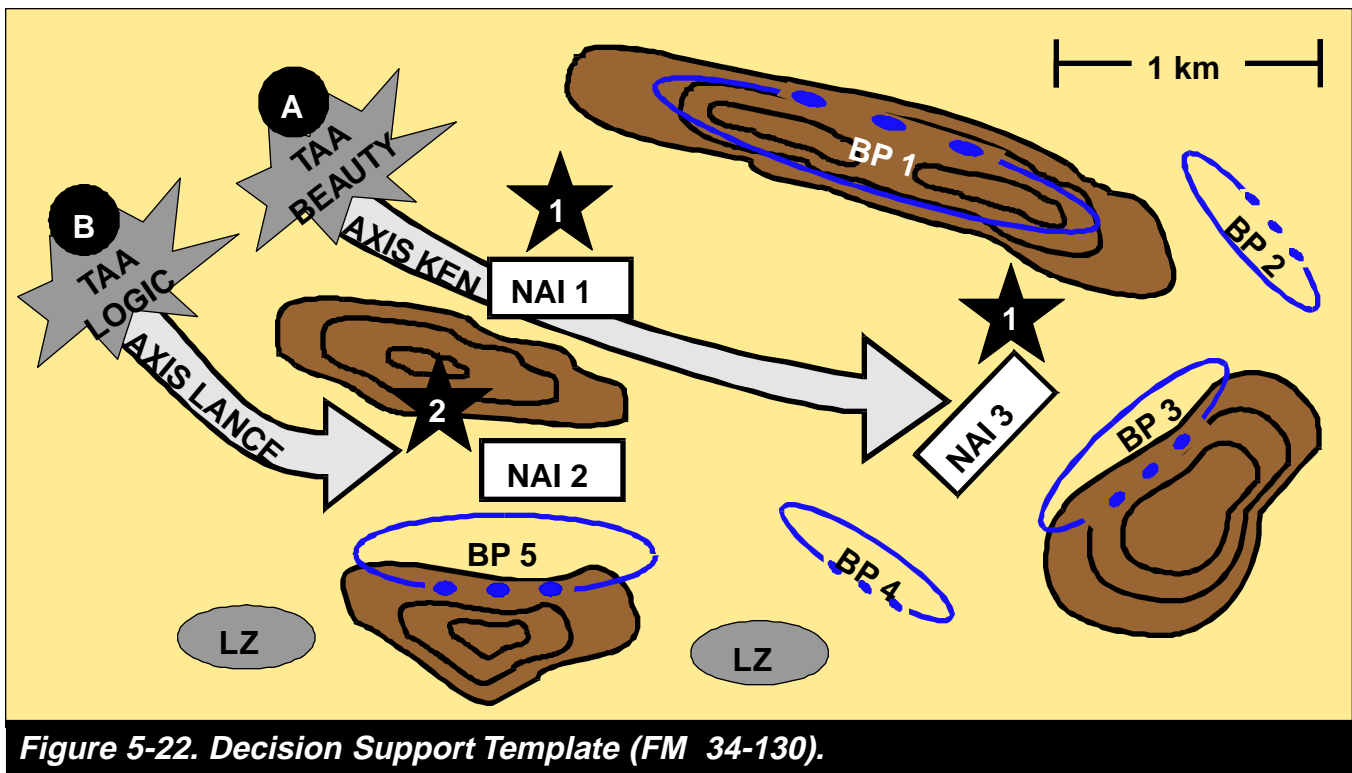
EXAMPLE	
MISSION: 2d Bde atks in zone at 270430 May 92 to destroy enemy forces on OBJ JOHN (WK2395). Establish hasty defenses on OBJ JOHN NLT 290600 May 92 to stop attack of the 43d MRD. On order continue the attack in zone to seize OBJ BLACK (WK4098).	
ANTICIPATED TIME	**PROPOSED PIR**
230600-282130	**Will the enemy use chemical agents on our reserve in AA SMITH?**
230600-270800	**Will the enemy defend OBJ JOHN using forward-slope defense?**
230600-270900	**Will the enemy reserve tank battalion reach PL BOB before 270900 May 92? (Note: PL BOB is 3km past OBJ JOHN.)**
291200-	**Are the bridges over Bodango River intact? (Note: The Bodango River lies between OBJ JOHN and OBJ BLACK and is unfordable.)**

DECISION SUPPORT TEMPLATE

The decision support template:
- Graphically represents the projected situation, identifying where a decision must be made to initiate a specific activity or event (See Figure 5-22 and 5-23).

- Does not dictate decisions; rather, it indicates when and where the need for a decision is most likely to occur.

- Combines projected enemy and friendly situations (developed during wargaming) with branch plans that the commander might employ to accomplish his mission.
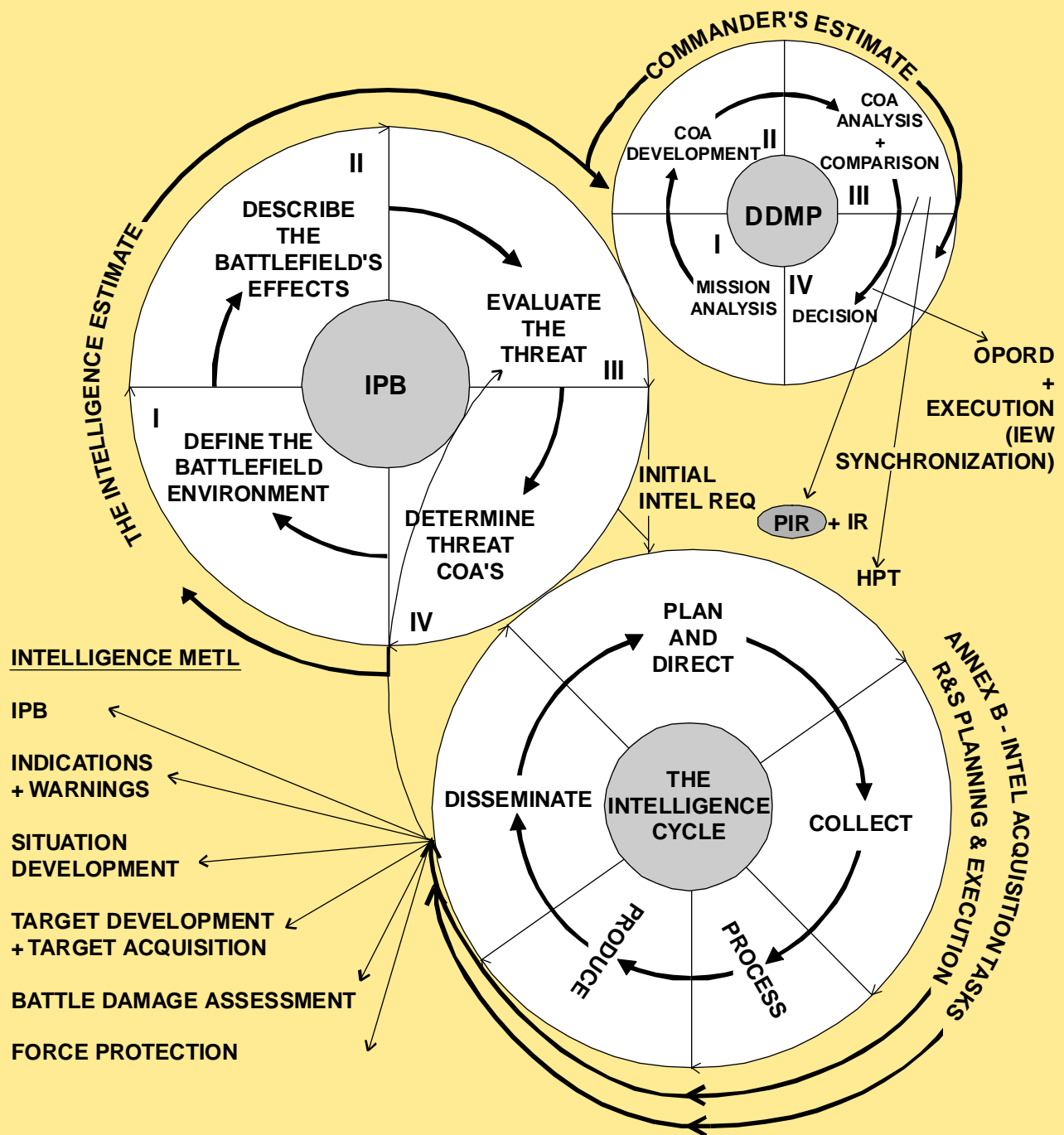
- Should integrate:

    - Time phase lines, enemy events, activities, and targets from S2 event template.
    - Friendly events, activities, scheme of maneuver, and control measures from the synch matrix and operations overlay.
    - CCIR.
    - Time estimates (calculations of time required to implement decisions).

- Reflects NAI, TAIs, time-phased lines (TPLs) and decision points (DPs).

- Displays as a matrix the CCIR supporting each DP and places the matrix where it will not interfere with reading the decision support template (DST) when it is on the map.

- Battle staff satisfies the CCIRs, as further developed into PIR, Essential Elements of Friendly Information (EEFIs), and Friendly Force Information Requirements (FFIR).

- As a net effect, optimizes the time required to complete planning through execution so the commander can seize or continue to retain the initiative.

Figure 5-22. Decision Support Template (FM 34-130).

DP NO.	NO. 1	NO. 2	NO. 3
Decision criteria	Insurgent Camp is in NAI No. 1 or No. 3	Insurgent Camp is in NAI No. 2	
Maneuver	A Co receives 3/B, occupy TAA Beauty, O/O movement to CATK along AXIS KEN

B Co Air Assaults O/O to occupy BPs 1 and 2

C Co occupies TAA LOGIC, O/O occupy BPs 3, 4, and 5 | A Co occupies TAA BEAUTY, O/O occupy BPs 1, 2, and 3

B Co Air Assaults O/O to occupy BPs 4 and 5

C Co receives 3/B, occupy TAA LOGIC, O/O movement to CATK along AXIS LANCE | |
| FS | Priority: A, B, C | Priority: C, B, A | |
| M-CM-S | 1/A/13th Engr to A | 1/A/13th Engr to C | |

Figure 5-23. Partial BOS Synchronization Matrix (FM 34-130).

TACTICAL INTELLIGENCE SUPPORT PROCESS: A VIEW

COMMANDER'S ESTIMATE

DDMP
- COA DEVELOPMENT — II
- COA ANALYSIS + COMPARISON
- III
- I — MISSION ANALYSIS
- IV — DECISION

IPB
- II — DESCRIBE THE BATTLEFIELD'S EFFECTS
- EVALUATE THE THREAT — III
- I — DEFINE THE BATTLEFIELD ENVIRONMENT
- DETERMINE THREAT COA'S — IV

THE INTELLIGENCE ESTIMATE

OPORD + EXECUTION (IEW SYNCHRONIZATION)

INITIAL INTEL REQ

PIR + IR

HPT

THE INTELLIGENCE CYCLE
- PLAN AND DIRECT
- COLLECT
- PROCESS
- PRODUCE
- DISSEMINATE

ANNEX B - INTEL ACQUISITION TASKS R&S PLANNING & EXECUTION

INTELLIGENCE METL

IPB

INDICATIONS + WARNINGS

SITUATION DEVELOPMENT

TARGET DEVELOPMENT + TARGET ACQUISITION

BATTLE DAMAGE ASSESSMENT

FORCE PROTECTION

IPB:
Supports the commander's deliberate decision making process (DDMP).
Drives the intelligence cycle.
Feeds the Intelligence Estimate & Commander's Estimate.